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INSPEC - 1969 to date (INZZ)

Accession number & update

7316341, A2002-16-6130-025; 20020708.

Title

Azimuthal anchoring properties of nematic **liquid crystal** on UV-exposed polyimide layers.

Author(s)

Akiyama-H; Iimura-Y.

Author affiliation

Graduated Sch of Technol, Tokyo Univ of Agric & Technol, Koganei, Japan.

Source

Japanese-Journal-of-Applied-Physics-Part-2 (Letters)(Japan), vol.41, no.5A, p.L521-3, 1 May 2002., Published: Japan Soc. Appl. Phys.

CODEN

JAPLD8.

ISSN

ISSN: 0021-4922.

Availability

SICI: 0021-4922(20020501)41:5AL;1521:AAPN; 1-5.

Publication year

2002.

Language

EN.

Publication type

J Journal Paper.

Treatment codes

X Experimental.

Abstract

The azimuthal anchoring properties of a nematic liquid crystal (LC) on two kinds of UV-exposed polyimide (PI) layers with different LC wettabilities have been examined. The azimuthal anchoring state of the PI layer showing a high LC wettability is revealed to be stronger than that showing a low LC wettability, which results from the strong LC adsorption state in the polymer showing a high LC wettability. These results indicate the important contribution of LC wettability to the azimuthal LC anchoring even in a photoalignment method. We also point out that the derivation of the azimuthal anchoring energy from a twist angle measurement is questionable due to the movement of the easy axis in a twisted nematic sample. (9 refs).

Descriptors

molecular-orientation; nematic-liquid-crystals; organic-compounds; wetting.

Keywords

azimuthal anchoring properties; nematic liquid crystal; UV exposed polyimide layers; wettabilities; photoalignment method; azimuthal anchoring energy; twist angle measurement.

Classification codes

A6130G (Orientational order of liquid crystals in electric and magnetic fields).

A6845 (Solid-fluid interface processes).

Copyright statement

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Digital object identifier

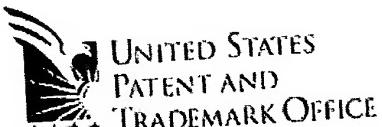
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INSPEC - 1969 to date (INZZ)

Accession number & update

7272523, A2002-13-6130-016; 20020520.

Title

Dynamics of liquid crystal azimuthal anchoring at a poly(vinyl cinnamate) interface measured in situ during polarized UV light irradiation.

Author(s)

Lazarev-V-V; Barberi-R; Iovane-M; Papalino-L; Blinov-L-M.

Author affiliation

Ist Nazionale di Fisica della Materia, Univ della Calabria, Rende, Italy.

Source

Liquid-Crystals (UK), vol.29, no.2, p.273-9, Feb. 2002. , Published: Taylor & Francis.

CODEN

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ISSN: 0267-8292.

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Publication year

2002.

Language

EN.

Publication type

J Journal Paper.

Treatment codes

X Experimental.

Abstract

An automated in situ technique for the measurement of the director reorientation at a nematic-aligning photosensitive **polymer** interface during polarized UV light irradiation has been developed. Using this technique, the photoinduced azimuthal **anchoring energy** (~ 20 m erg cm^{-2}) and the adsorption part of the latter (~ 7 m erg cm^{-2}) have been evaluated for the E7-poly(vinyl cinnamate) system. The kinetics of the director reorientation have been shown to be a very slow process (~ 1 h) and probably controlled by adsorption-desorption of **liquid crystal** molecules at the interface. (24 refs).

Descriptors

liquid-crystal-polymers; molecular-orientation; nematic-liquid-crystals;
ultraviolet-radiation-effects.

Keywords

liquid crystal azimuthal **anchoring**; poly vinyl cinnamate interface; polarized UV light irradiation; director reorientation; nematic aligning photosensitive **polymer** interface; photoinduced azimuthal **anchoring energy**; adsorption desorption; **liquid crystal** molecules; 1 h.

Classification codes

A6130E (Experimental determinations of smectic, nematic,

cholesteric, and lyotropic structures).

A6180B (Ultraviolet, visible and infrared radiation effects).

A6470M (Transitions in **liquid** crystals).

Numerical indexing

time: 3.6E+03 s.

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<http://dx.doi.org/10.1080/02678290110093228>.

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